



# Programax™ 10

## OPERATING GUIDE



### CAUTION

TO PREVENT THE RISK OF FIRE AND SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.  
DO NOT REMOVE FROM CASE. NO USER SERVICEABLE PARTS INSIDE.  
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

### CLASS II COMPUTING DEVICE: INFORMATION TO USER

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- reorient the receiving antenna
- relocate the equipment with respect to the receiver
- move the equipment away from the receiver
- plug the equipment into a different outlet so that the equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio-television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:

"How to Identify and Resolve Radio-TV Interference Problems"

This booklet is available from the US Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

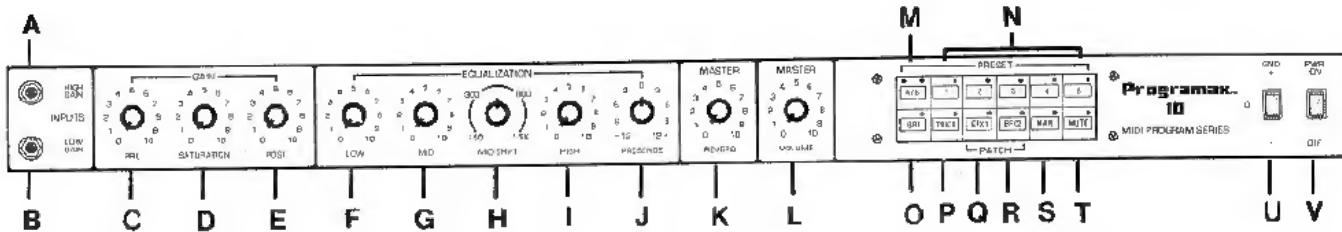
### General Description

The Programax™ 10 is a self-contained guitar amplification system which represents a state-of-the-art unification of advanced digital and analog design technologies. The intelligence of microprocessor control, the precision of digitally-controlled analog signal processing, and the rugged reliability of solid state linear power devices combine in the Programax 10 to provide the performer with the ultimate in both tonality and convenience. The Programax 10 is configured in such a manner that any combination of control settings may be stored in the amplifier's internal memory to be recalled at a later time at the player's discretion. Recall of stored programs may be accomplished remotely by means of the Peavey RMC 2000 remote MIDI controller or by a number of other available devices.

The Programax 10 is capable of delivering over 200 watts RMS to its internal Scorpion® speakers, and incorporates many popular features found on other Peavey professional amplifiers. Our unique gain block circuitry, incorporating Peavey's patented Saturation™ circuit, allows the player total command of the amplifier's distortion and compression characteristics. A wide range of equalization controls, including Mid Shift and active Presence, provide total control over the unit's tonal capability. The proven full-range spring reverb system utilizes current source drive for maximum damping and performance. Ease of operation with effects devices has been optimized by the inclusion of two independent effects loops, both of which can be included in program parameters.

To withstand the rigors of night-after-night professional usage, the chassis and speakers are housed in a cabinet constructed of  $\frac{3}{4}$ " wood, covered with the strongest available 34-ounce vinyl. Ruggedness is enhanced by the use of heavily plated steel glides and corners and by a steel-reinforced carrying handle. All internal components have been carefully selected for outstanding durability and superb performance.

The Programax 10 offers performance capability previously unavailable in a guitar amplifier. In order to achieve maximum performance and enjoyment from your amplifier, it is necessary to fully understand the function of each control. Please read this operating guide carefully and completely, and keep it available for future reference.



## FRONT PANEL FEATURES

### Input Jacks (A,B)

The Programax 10 is equipped with two Input Jacks which differ in sensitivity and impedance. The High Gain Input (A) has considerably more sensitivity than the Low Gain Input (B) and is the input normally used with most instruments, especially when maximum distortion and overdrive are desired. The Low Gain Input exhibits approximately 6 dB less gain and is intended primarily for use with instruments which have extremely high output pickups. "Hot" pickups will sometimes prematurely overload the High Gain Input Jack causing an unpleasant tonality and harsh overdrive characteristics. Experiment with both Input Jacks to determine which will best suit your own individual playing style and your instrument's output characteristics.

### Gain Block (C,D,E)

The Programax 10 has been designed using Peavey's unique Gain Block preamplifier circuitry. The Pre Gain, Saturation, and Post Gain Controls operate interdependently to create a full spectrum of sound, from crisp clean response to fully overdriven distortion. Experimentation will be required to determine the relative levels of these controls necessary to produce the most pleasing tonalities.

### Pre Gain Control (C)

The Pre Gain Control is similar to a conventional volume control in that it is the first level-setting device in the system. Rotating the control clockwise increases the gain in the preamp section, therefore raising the volume level of the system.

### Saturation Control (D)

The Saturation Control is used to set the operating point of Peavey's unique Saturation circuitry. Saturation is a highly sophisticated circuit which simulates the gain compression and rich harmonic overload of vacuum tubes. Turning the Saturation Control clockwise will increase the effect of the Saturation circuit upon the amplifier's sound.

It must again be noted that the three Gain Block controls interact. When using Saturation, the Pre Gain Control (C) must be adjusted to a level sufficient to adequately drive the Saturation circuit. Since increasing the Pre Gain will cause the amplifier's volume level to increase, the Post Gain Control (E) will also require adjustment to control relative volume levels.

### Post Gain Control (E)

Within the Programax 10, operation of the Post Gain Control differs somewhat from its traditional role as the overall volume control for the amplifier. In a typical nonprogrammable Peavey amplifier, the Post Gain Control is used to adjust the overall volume level of the amp. In the Programax 10, however, overall volume is controlled by the Master Volume Control (L). The Post Gain Control, therefore, assumes the function of a RELATIVE volume control, and is used to balance the level of each individual program relative to the levels of other stored programs. Rotating the Post Gain Control clockwise will increase the volume of the amplifier, but the volume of a program should be compared to the volumes of other programs to achieve the correct balance between programs. Such comparison will allow relative levels to be established with a high degree of precision.

The need for experimentation and comparison to determine the optimum control positions within the Gain Block cannot be overemphasized, either for establishing a new program or for "fine-tuning" existing programs.

### Equalization Controls

The Programax 10 features four bands of equalization which provide virtually unlimited tonal control. The Low, Mid, and High EQ bands are of the passive type preferred by many guitarists, while the Presence EQ band is active.

### Low EQ Control (F)

The Low EQ Control adjusts the tonality for the amount of smoothness and offers extended bandwidth within the lower frequencies of the tonal range. Care should be taken to not overboost with this control to avoid muddiness and loss of headroom in the power amp. Extreme overboosting of bass frequencies tends to detract from the projection capability of the amplifier and may reduce the clarity of lead guitar lines.

### Mid EQ Control (G)

The Mid EQ Control adjusts the tonality in the vital midrange frequencies. Rotating the Mid EQ Control clockwise increases the midrange for the greater degree of "fat" tonalities. The Mid EQ Control operates in conjunction with the Mid Shift Control (H) described below.

### Mid Shift Control (H)

The Mid Shift Control determines the frequency at which the Mid EQ Control (G) operates. It is therefore necessary that these two controls be adjusted relative to each other to achieve optimum tonal balance. In operation, the Mid Shift Control will determine WHERE the midrange is affected, while the Mid EQ Control will determine HOW MUCH equalization is utilized. Guitarists desiring bright, clean sounds will generally use little or no midrange equalization, while those desiring thicker, fatter sounds will greatly benefit from more midrange equalization.

### High EQ Control (I)

The High EQ Control varies treble frequencies between the midrange and presence equalization bands. Turning this control clockwise will increase the amount of treble frequencies in the overall tonal spectrum.

Excessive high equalization can adversely affect the amplifier's tonality if a smooth distorted sound is desired. When working with programs containing significant amounts of Saturation, High EQ Control settings should be reduced to avoid stridency or harshness of the overall tone.

#### **Presence EQ Control (J)**

The Presence EQ Control offers both cut and boost capability, and regulates the uppermost range of equalization. Within the Programax 10's circuitry, the Presence circuit is the final stage of equalization and is most useful for determining the final "edge" of the desired sound.

As with the High EQ Control, excessive Presence boost can adversely affect the overall sound of the amplifier when smooth distorted tonalities are desired.

#### **Master Reverb Control (K)**

The Master Reverb Control determines the amount of delayed signal returned into the main signal from the internal reverb system. Clockwise rotation of the Master Reverb Control increases the amount of reverberation effect in the signal.

#### **Master Volume Control (L)**

The Master Volume Control is the final control regulating the amplifier's gain, and is used to adjust the overall volume level of the amplifier. It should be noted that settings of the Master Volume Control are NOT stored within the parameters of any given program. This allows the player to vary the overall volume of all programs simultaneously, without disturbing the balance of control settings established within or between any stored programs.

#### **Program Control Switch Matrix**

The Program Control Switch Matrix is an array of 12 push-button switches which are used to store, recall, or modify programs within the Programax 10. The upper row of six switches consists of the Bank A/B Switch (M) and the five Program Keys (N) numbered 1 through 5. The lower row of switches control various programmable functions including preset equalization curves (Bright and Thick), access to the amplifier's two effects loops, manual override capability, and the Mute (standby) function.

#### **Bank A/B Select Switch (M)**

The program storage capability of the Programax 10 is arranged in two banks, each containing five storage locations. Any storage location will have both a bank letter (A or B) and a program number (1 through 5). For example, a program labeled "B3" will be found in Bank B, program location 3.

Pressing the Bank A/B Key selects either bank. A small LED above the letters A or B will light to indicate which bank has been selected. Since either Bank A or B is always in use, one LED will always be illuminated, thereby providing a "pilot light" function for the amplifier.

#### **Program Keys 1 Through 5 (N)**

The five Program Keys serve to recall or store programs within the amplifier's memory. To recall any stored program, first select the correct bank by pressing the Bank A/B Key (M) until the desired LED is illuminated. Then press the appropriate Program Key. A small LED will illuminate to show which program has been selected.

To recall any program, select the desired bank, then press and **QUICKLY RELEASE** the desired program key.

To store a program, select the desired bank, then press the desired Program Key and **HOLD IT IN UNTIL THE LED STOPS FLASHING**. The program is now stored in the selected location.

At any time, LEDs will be illuminated on both the Bank A/B Key and one Program Key. If a program has been recalled, but not modified, the Program Key LED will remain constantly lit. As soon as the Programax 10 detects a change in a program, the LED on the Program Key will start to flash off-and-on. This flashing LED serves as a reminder that a program has been modified. A modified program can be stored as previously described.

#### **BRT Key (O)**

The BRT (Bright) Key adds a preset high frequency equalization curve or "brightness boost" to the sound of the amplifier. An LED on the BRT Key will illuminate when the key is pressed or when this parameter is being used within a program. Function of the High EQ Control (I) and Presence Control (J) may be somewhat reduced when the Bright feature is in use.

The Bright function is a programmable parameter, and may be stored as a part of any program.

#### **Thick Key (P)**

The Thick Key adds a preset mid-band equalization boost, and is commonly used in conjunction with high level Saturation Control (D) settings. When the Thick function is activated, the high frequencies may become less pronounced due to the "fullness" added by the boosted midrange frequencies. In addition, normal function of the Equalization Controls, particularly the Mid EQ and Mid Shift Controls, may be less effective when the Thick function is in use.

The Thick function is a programmable parameter, and may be stored as a part of any program.

#### **EFX1 Key (Q)**

The EFX1 (Effects Loop #1) Key adds a pre-EQ effects loop to the circuit. Access to this effects loop is via the Pre-EQ Patch Jack (W) on the rear panel. Please note that this effects loop operates at low voltage levels (-14 dBV) and is designed to drive low level effects devices. Most battery-operated effects devices fall into this category. For best results in effects loop selection, consult the operating instructions for the effects devices to be used.

This effects loop is a programmable parameter, and may be enabled as a part of any program.

#### **EFX2 Key (R)**

The EFX2 (Effects Loop #2) Key adds a post-EQ effects loop to the circuit. Access to this loop is via the Post-EQ Patch Jack (X) on the rear panel.

This effects loop operates at line level voltage (0 dBV and above), and is designed to accommodate professional line level effects devices.

Signal return levels for Effects Loop #2 are adjustable on the rear panel. This adjustment capability allows gain differences caused by effects devices to be minimized.

This effects loop is a programmable parameter, and may be enabled as a part of any program.

#### **MAN Key (S)**

The MAN (Manual) Key provides the means of "overriding" the programmed functions of the amplifier. When the MAN key is pressed, all controls are returned to their manual (actual setting) positions. A new program may now be created, without altering any stored programs.

Please note that it is NOT necessary to place the amplifier in Manual mode in order to alter any control setting. All controls are accessible at any time, and changing the setting of any control will cause that control to override its programmed setting. The MAN Key is simply a way to gain access to all controls immediately. The Manual Function is NOT a programmable parameter.

#### **MUTE Key (T)**

The MUTE Key is used to temporarily silence the amplifier without modifying any sound or system setting. Depressing the MUTE Key a second time will return the amplifier to its former setting. The MUTE Key provides a convenient way of placing the Programax 10 in "stand-by" mode. For obvious reasons, the MUTE function is not a programmable parameter.

#### **Ground Lift Switch (U)**

This switch is the three-position type with the center (0) position completely removing the internal grounding capacitor from the circuit. The center (0) position is normally recommended for situations where the AC power receptacle is known to contain a properly grounded third wire. If a properly grounded AC mains supply is not available, a suitable ground lift adaptor should be used. The (+) and (-) positions are used to ground the amplifier properly when only two-wire AC service is available. One of these positions will yield the lowest amount of residual hum or "popping" when the instrument is touched. NOTE: THE GROUND LIFT SWITCH IS NOT OPERATIONAL ON 220 VOLT AND 240 VOLT EXPORT MODELS.

#### **Power On/Off Switch (V)**

The Power On/Off Switch is a simple two-position switch which supplies AC power to the amplifier.

### **The Programmable Amplifier**

The Programax 10 is the first Peavey amplifier to be equipped with program storage and recall capability. In order to achieve optimum performance from your Programax 10, it is necessary to understand the unique capabilities of the amplifier.

Any combination of control settings may be stored in one of the amplifier's ten storage locations. When a program is stored, a digital value is assigned to the relative position of each control; it is these digital values that are "remembered" by the amplifier's memory circuits. Program information includes values for all controls except the MAN and MUTE keys and the Master Volume Control. When a program is recalled, the digital information corresponding to that program will determine the relative "position" of each control.

Program creation, storage, and recall are easily learned. The Programax 10 is supplied with ten programs in place, which were input by Peavey factory technicians during manufacture of the amplifier. Although these "factory" programs present a wide range of tonalities, they may not be perfect for every player's needs. As a Programax 10 owner, it will be necessary to learn how to quickly recall, store, modify, or create a program.

#### **Program Recall**

To recall any program which exists in memory, simply press the Bank A/B Key (M) until the LED above the correct bank lights. Then press and quickly release the appropriate Program Key (1 through 5) to select the program location in which the program is stored. This action (two keystrokes) will automatically recall any desired program. The amplifier will now perform in accordance with the information within that program, regardless of the physical position of the amplifier's controls. Any program may be recalled by this same procedure: press the appropriate Bank and Program Keys and the program is recalled.

When recalling another program within the same bank, it is not necessary to reselect the bank. For example, if program B2 has previously been selected, and program B5 is desired, it is not necessary to reselect the Bank. Simply pressing Program Key 5 will recall the desired program.

#### **Program Modification**

Any stored program may be easily modified simply by altering the position of the appropriate controls. Remember that when a program is recalled, the positions of the amplifier's controls have no effect on the performance of the amplifier, UNTIL A CONTROL'S POSITION IS ALTERED. Whenever the Programax 10 "senses" that a control is being moved, the amplifier will automatically cause the control's actual position to "override" the stored program information FOR THAT CONTROL ONLY. For example, suppose that a bit more Saturation is desired within a particular program. Simply turn the Saturation control until the desired setting is reached. The program is now modified and is ready to be stored in its altered state.

When a program is being modified, only those controls which have been physically moved will change in value; If a control's position has not been altered, the programmed values will be unchanged.

Whenever a program is modified in any way, the LED indicator on the Program Key will begin to flash on and off. To store a modified program in the same location, press the program key and hold it until the LED stops flashing. To "cancel" any modifications and return to the original program, press the program key and quickly release it.

#### **Program Creation**

Programs may be created "from scratch" by adjusting the amplifier's controls to the desired positions. To create a new program, first press the MAN Key (S) on the Program Control Switch Matrix. This will place the amplifier in manual mode, and all controls will be operating at their indicated values. Adjustment of any control or controls will create a new program. When the new program is satisfactorily adjusted, it may be stored in any location.

#### **Program Storage**

Any program — new, modified, or existing — may be stored in any chosen location. To store a newly created or modified program, decide which bank and program locations will be used. Press the Bank A/B Key to select the correct bank. Then press the correct Program Key and HOLD THE KEY IN UNTIL THE LED STOPS FLASHING (about three seconds). The program is now stored in the selected location.

To move an existing program to a new location, the program must first be recalled (see Program Recall), then it may be stored in the new location in the manner described above. It should be noted that any program so moved will now exist in both the old and new locations.

It should also be noted that any time a program is stored into a particular location, any information previously stored in that location will be erased. Care should be taken to ensure that a valuable program is not inadvertently destroyed by careless program storage.

## Program Retention

The Programax 10 contains a special rechargeable internal battery to protect and maintain stored programs while the amplifier is not in use. When the amplifier is in use (power on), an internal circuit automatically recharges the battery. During periods when the amplifier is not in use, user-input programs will be retained in memory for approximately three weeks. Factory-input programs will be retained indefinitely.

If the Programax 10 is turned off for a prolonged period of time (several weeks or longer), all user-input programs may be lost from memory. If this occurs, the amplifier will automatically revert to the original factory-input programs. It is recommended, therefore, that any user-input programs be recorded in writing in case the need for reprogramming arises.

Under conditions of normal use, the internal battery should have a life expectancy in excess of five years. Battery failure is indicated if the Programax 10 refuses to retain user-created or user-modified programs during a power-off/power-on cycle. Since the battery is an integral component of the amplifier's circuitry, replacement of the battery should be performed only by an Authorized Peavey Dealer or qualified service technician.

## Program Deletion/Return to Factory Preset Programs

Capability is provided to simultaneously delete all user-input programs from the amplifier's memory. When this is done, the Programax 10 will automatically revert to the ten original "factory" programs. NOTE: THIS PROCEDURE WILL CAUSE DESTRUCTION OF ALL USER-INPUT INFORMATION.

The following procedure will clear user-input memory:

1. Turn the amplifier off.
2. Press and hold BOTH the BANK A/B key (M) and the MAN key (T).
3. While holding both keys in position, turn the amplifier on.



## REAR PANEL FEATURES

### Pre-EQ Patch In/Out Jack (W)

This stereo-type jack allows access to the Pre-EQ effects loop (Effects Loop #1). This effects loop is low level (0.2V RMS, -14 dBV), and is intended to drive effects devices and pedals primarily designed for instrument-level signals. Most small battery-operated or passive devices fall into this category.

To connect an effects device to the Pre-EQ effects loop, a shielded stereo Y-cord should be used. The SEND signal is present at the TIP of the jack, and the RETURN signal is present at the RING of the jack. The SEND signal should be routed to the input of the effects device, and the RETURN signal originates at the device's output.

Please note that the Pre-EQ effects loop is not active unless the EFX1 indicator (Q) is illuminated on the front panel.

### Post-EQ Patch In/Out Jack (X)

This stereo-type jack allows access to the Post-EQ effects loop (Effects Loop #2). The Post-EQ effects loop is designed to accommodate line-level effects devices and provides a suitable signal (1.0V RMS, 0 dBV) to drive such devices.

As previously discussed in the Pre-EQ Patch section, a shielded stereo Y-cord should be used to connect an effects device. The SEND signal appears at the TIP of the jack, and the RETURN signal is present at the RING of the jack. Level balancing of the Post-EQ effects loop is accomplished by adjusting the Post-EQ Level Control (Y).

Please note that the Post-EQ effects loop is not active unless the EFX2 indicator (R) is illuminated on the front panel.

### Post-EQ Level Control (Y)

The Post-EQ Level Control regulates the return level of signals routed through the Post-EQ Patch Jack (X). Some effects devices may not provide unity gain (signal input and output levels may not be equal), and the Post-EQ Level Control may be used to restore gain balance.

It should be noted that the Post-EQ Level Control is operable whenever the EFX2 effects loop is enabled. The control will, therefore, affect signal levels even if no effects devices are connected to the amplifier. If no post-EQ effects are to be connected to the amplifier, it is recommended that the control be rotated to its full clockwise position. This setting will prevent the possibility of gain reduction if the EFX2 effects loop is inadvertently enabled.

### MIDI In Socket (Z)

The MIDI In Socket is a standard DIN connector which allows for a MIDI controller interface to the Programax 10. When such an interface is established, programs stored within the amplifier may be recalled from any remote MIDI controller, such as the Peavey RMC 2000.

The Programax 10 is a MIDI slave device only; it is not intended to control other MIDI-compatible devices. The amplifier's microprocessor can receive information on Channel 1 only and will select any of the ten stored programs in response to commands MIDI Preset Select 1 through MIDI Preset Select 10. Any other codes will be ignored by the internal microprocessor.

### MIDI Thru Socket (AA)

The auxiliary MIDI output is provided to allow chaining of MIDI-compatible devices without the use of Y-type cables or connectors. Any and all control signals received at the MIDI In Socket (Z) will be routed unaltered to the MIDI Thru Socket.

### Line Cord (BB)

For your safety, the Programax 10 incorporates a three-wire AC (mains) cable with proper grounding facilities. Do not remove the ground pin under any circumstances. If it is necessary to use the amp without proper grounding facilities, a suitable grounding adaptor should be used. Much less noise and greatly reduced shock hazard exist when the unit is operated with properly grounded receptacles.

FACTORY PROGRAMS												
	PRE	SAT	POST	LOW	MID	SHIFT	HIGH	PRES	REV	BRT	THICK	
A1	2	0	5	5	3.5	600	6	+6	3	IN	0	BRIGHT & FAT CLEAN
A2	4.5	10	3	2.5	7	600	5.5	+8	4	IN	0	SUPER "CRUNCH" DISTORTION
A3	2	0	5	4	5.5	650	4	+6	3	0	0	"CHUNKY" CLEAN
A4	2	10	4	5	2	900	5	+3	4	IN	IN	TOUCH SENSITIVE DISTORTION
A5	2	0	6.5	7	7	700	5	+12	4.5	IN	0	CLEAN PRESENCE PLUS
B1	2	0	7.5	10	10	200	5	0	3.5	0	0	DARK CLEAN (JAZZY)
B2	7	10	2.5	6	7	800	8	0	6	0	IN	SUPER COMPRESSED REVERB DISTORTION
B3	2.5	0	5.5	5	0	350	8	+6	3	IN	0	MID NOTCH CLEAN
B4	4	10	2.5	2.5	10	300	2.5	+3	4	0	0	MID BOOST DISTORTION
B5	2	9	3	5.5	6.5	500	8	+6	0	IN	0	BRIGHT DRY "CRUNCH"
POWER UP	2	0	5.5	5.5	5.5	500	7.5	+3	3.5	0	0	FLAT CLEAN

## PROGRAMMAX™ 10 SPECIFICATIONS

### Power Amplifier Section:

**Frequency Response:**  
+0, -1 dB, 60 Hz to 16 kHz @ 200 @ into 4 ohms

**Rated Power & Load:**  
(Prior to clipping, 1 kHz, 120 VAC line)  
210 W RMS into 4 ohms  
(External Speaker connection not recommended)

**Total Harmonic Distortion:**  
Less than 0.2%, 100 mW to 200 W RMS,  
60 Hz to 10 kHz, 4 ohms  
(Typically below 0.1%)

**Intermodulation Distortion:**  
Less than 0.2%, 100 mW to 200 W RMS,  
60 Hz to 5 kHz, 4 ohms  
(Typically below 0.1%)

**Hum & Noise:**  
More than 90 dB below rated power

**Slew Rate:**  
Greater than 10 V/uSec

**Power Consumption: (Domestic)**  
600 watts, 50/60 Hz, 120 VAC

### Preamp Section:

The following specs are measured @ 1 kHz  
with the controls preset in the following  
manner:

**Saturation™ @ 0**

**Post Gain @ 10**

**Low EQ @ 0**

**Mid EQ @ 0**

**High EQ @ 0**

**Presence @ 0**

**Reverb @ 0**

**Master Volume @ 10**

**Bright On**

**Thick On**

**Nominal Levels are with Pre Gain @ 5**

**Minimum Levels are with Pre Gain @ 10**

**Pre-Amp High Gain Input: (No Pad)**

Impedance: High Z, 47K ohms

Nominal Input Level: -28 dBV, 40 mV RMS

Minimum Input Level: -46 dBV, 5 mV RMS

Maximum Input Level: +8 dBV, 2.5 V RMS

**Pre-Amp Low Gain Input: (-6 dB Pad)**

Impedance: High Z, 94K ohms

Nominal Input Level: -22 dBV, 80 mV RMS

Minimum Input Level: -40 dBV, 10 mV RMS

Maximum Input Level: +10 dBV, 3 V RMS

**Channel Hum & Noise @ Nominal Input**

**Level:**

(20 Hz to 20 kHz unweighted)

75 dB below rated output power

### Equalization:

Low, Mid, Shift & High: Passive Type EQ

Bright: +6 dB @ 2 kHz

### Pre-EQ Patch Input/Output:

(Stereo Phone Jack; Tip-Send, Ring-Return)

Function: Low Level Pre-EQ Effects/Pedal  
Send and Return

Load Impedance: 10K ohms or greater

Nominal Output: -14 dBV, 0.2 V RMS

Input Impedance: High Z, 220K ohms minimum

Input Level: -14 dBV, 0.2 V RMS

(Switching Jack providing Patch Output to  
Patch Input connection when not used)

### Post-EQ Patch Input/Output:

(with Level Control)

(Stereo Phone Jack; Tip-Send, Ring-Return)

Function: High Level Post-EQ Signal Send  
and Return

Load Impedance: 1K ohms or greater

Nominal Output: 0 dBV, 1.0 V RMS

Maximum Output: +18 dBV, 8.0 V RMS

Input Impedance: High Z, 5K ohms minimum

Input Level: 0 dBV, 1.0 V RMS

(Switching Jack providing Patch Output to  
Patch Input connection when not used)

### Footswitch:

MIDI In/Thru for complete selection of Program Presets

**DANGER**  
EXPOSURE TO EXTREMELY HIGH NOISE LEVELS MAY CAUSE A PERMANENT HEARING LOSS. INDIVIDUALS VARY CONSIDERABLY IN SUSCEPTIBILITY TO NOISE INDUCED HEARING LOSS. BUT NEARLY EVERYONE WILL LOSE SOME HEARING IF EXPOSED TO SUFFICIENTLY INTENSE NOISE FOR A SUFFICIENT TIME.

THE U.S. GOVERNMENT'S OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) HAS SPECIFIED THE FOLLOWING PERMISSIBLE NOISE LEVEL EXPOSURES:

SOUND LEVEL dB(A) SLOW RESPONSE

80

62

55

47

40

32

25

18

12

6

0

-4

-12

-18

-25

-32

-40

-47

-55

-62

-70

-78

-85

-92

-98

-105

-112

-118

ACCORDING TO OSHA, EXPOSURE IN EXCESS OF THE ABOVE PERMISSIBLE LIMITS COULD RESULT IN SOME HEARING LOSS. EAR PLUGS OR PROTECTOR TUBES IN THE EAR CANALS OR OVER THE EARS JUST BE WORN WHILE OPERATING THIS AMPLIFICATION SYSTEM TO AVOID A PERMANENT HEARING LOSS. IT IS RECOMMENDED THAT ALL PERSONS EXPOSED TO EQUIPMENT CAPABLE OF PRODUCING HIGH SOUND PRESSURE LEVELS SUCH AS THIS AMPLIFICATION SYSTEM BE PROTECTED BY HEARING PROTECTORS WHILE THIS UNIT IS IN OPERATION.

THIS AMPLIFIER HAS BEEN DESIGNED AND CONSTRUCTED TO PROVIDE ADEQUATE POWER RESERVE FOR PLAYING MODERN MUSIC WHICH MAY REQUIRE OCCASIONAL PEAK POWER. TO HANDLE OCCASIONAL PEAK POWER, A RESERVE POWER "HEADROOM" HAS BEEN DESIGNED INTO THIS SYSTEM. EXTENDED OPERATION AT ABSOLUTE MAXIMUM POWER LEVELS IS NOT RECOMMENDED SINCE THIS COULD DAMAGE THE AMPLIFIED LOUDSPEAKER SYSTEM. PLEASE BE AWARE THAT MAXIMUM POWER CAN BE OBTAINED WITH VERY HIGH SETTINGS OF THE GAIN CONTROL.

1. Read all safety and operating instructions before using this product.
2. All safety and operating instructions should be retained for future reference.
3. Obey all cautions in the operating instructions and on the back of this unit.
4. All operating instructions should be followed.
5. This product should not be used near water, i.e. a bathtub, sink, swimming pool, wet basement, etc.
6. This product should be located so that its position does not interfere with its proper ventilation. It should not be placed flat against a wall or placed in a built-in enclosure that will impede the flow of cooling air.
7. This product should not be placed near a source of heat such as a stove, heater, radiator or another heat producing amplifier.
8. Do not use power supply cords longer than the 8 ft. length marked on the back of the power supply cord.
9. Never break off the ground pin on the power supply cord. For more information on grounding wire for our free booklet "Shock Hazard and Grounding".
10. Power supply cords should always be handled carefully. Never walk or place equipment on power supply cords. Periodically check cords for cuts or signs of stress, especially at the plug and the point where the cord exits the unit.
11. The power supply cord should be unplugged when the unit is to be unused for long periods of time.
12. Metal parts can be cleaned with a damp rag. The vinyl covering used on some units can be cleaned with a damp rag or an ammonia based household cleaner if necessary.
13. Do not attempt to open so the liquids do not fall into voids are not spilled into the unit through the ventilation holes or any other openings.
14. This unit should be checked by a qualified service technician if:
  - A. The power supply cord or plug has been damaged.
  - B. Anything has fallen or been spilled into the unit.
  - C. The unit does not operate correctly.
  - D. The unit has been dropped or the enclosure damaged.
15. The user should not attempt to service this equipment. All service work should be done by a qualified service technician.

Due to our efforts for constant improvement, specifications are subject to change without notice.

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